



WASHOE COUNTY

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DA ✓
Risk Mgt. DE
HR N/A
Comptroller MS

STAFF REPORT

BOARD MEETING DATE: January 12, 2016

DATE: December 11, 2015
TO: Board of County Commissioners
FROM: Lydia Peri, Environmental Engineer II, Engineering and Capital Projects
Community Services Department, 954-4626, lperi@washoecounty.us
THROUGH: Dwayne Smith, P.E., Division Director, Engineering and Capital Projects
Community Services Department, 328-2043, desmith@washoecounty.us
SUBJECT: Recommendation to approve a First Amendment to Interlocal Agreement
between Washoe County and the Western Regional Water Commission
retroactive to July 1, 2015, for the continuation of Septic Nitrate Study and
Risk Assessment Phase II through June 30, 2016. (All Commission
Districts.)

SUMMARY

This Agreement represents a follow up to the initial report completed in 2007 as part of the Septic Nitrate Baseline Data and Risk Assessment titled *Phase I: Prioritization of Study Areas & Assessment of Data Needs*, which was funded by the Regional Water Planning Commission ("RWPC"). The study identified areas of historic developments in the Truckee Meadows with high density septic system clusters, and attempted to rank them based on their potential for groundwater nitrate contamination. The Phase I report acknowledged data gaps for several of the high density septic system areas identified. The *Phase II: In-depth Analysis of Prioritized Study Areas, Creation of Baseline Data Set, and Risk Assessment* ("Phase II") study is designed to provide the data that is needed to complete the risk analysis of the areas in question.

Through the Interlocal Agreement, Washoe County is collecting and analyzing groundwater samples from domestic wells throughout areas where septic systems are used for wastewater disposal. Domestic wells are identified and sampled following approval from well owners. Information collected and compiled from the sampling task will be analyzed to develop a better understanding of impacts to water sources. Preparation of a final report divided by study area will describe the project background, history of septic systems in study areas, data findings, mass balance modeling results, impact assessments, and recommendations for future work. Funding for this project, in an amount not to exceed \$150,000, has been budgeted for field data collection, laboratory expenses and materials.

An amendment to the Interlocal Agreement will allow the Project to progress and be completed by June 30, 2016. This extension is proposed to authorize any remaining funds

AGENDA ITEM # 8D3

from fiscal year 2013/2014 to be used by the commission for Project continuation in fiscal years 2014/2015 and 2015/2016.

PREVIOUS ACTION

On September 24, 2013, the Board of County Commissioners approved the Interlocal Agreement between Washoe County and the Western Regional Water Commission for Washoe County to conduct field work and analysis in support of the Septic Nitrate Study and Risk Assessment.

BACKGROUND

At its December 6, 2006, meeting, the RWPC reviewed its list of priority projects and directed staff to identify the evaluation of septic tank effluent on water quality as one of its top priorities. In response, staff developed a scope of work outline for review and comment by the RWPC and developed a strategy to utilize Washoe County experience and resources to develop the required data. Using input from the RWPC, staff compiled the following elements with the assumption that initial Phase I efforts should involve collection, review, and evaluation of existing data.

1. Determine effluent constituents of concern;
2. Identify possible sources other than septics;
3. Review nitrogen speciation;
4. Identify effects on surface water and ground water quality;
5. Identify areas currently served by septic systems and evaluate septic tank densities;
6. Compile available water quality data;
7. Develop a conceptual evaluation of effluent fate and transport;
8. Identify sensitive receptors;
9. Identify potential effects on human health;
10. Identify potential for degradation of potable water supply;
11. Identify potential effect on water quality standards for surface waters;
12. Identify possible mitigation measures, such as:
 - a. Sanitary Sewer connection feasibility;
 - b. Septic tank management/maintenance.

On March 19, 2008, the Washoe County Community Services Department (formerly the Washoe County Department of Water Resources) provided a presentation and discussion on the initial report for the project titled *Phase I: Prioritization of Study Areas & Assessment of Data Needs*. Recommendations from the Phase I study suggested a more comprehensive monitoring and assessment program be implemented on the high priority areas to identify the fate and transport of the septic effluent. Following is the outline of the Phase I study Recommendations:

- Collect additional water quality and water level data from domestic well owners in all Project Areas.
- Collect water quality samples from surface water bodies adjacent to and downstream of Individual Sewage Disposal Systems.
- Additional analysis of currently available data for High Priority Areas.
- Perform basic mass balance modeling of High Priority Areas.
- Perform basic vadose-zone modeling of High Priority Areas.
- Perform a GIS-based analysis similar to that completed by the USGS in Douglas County.
- Consider the potential for other sources of nitrate within High Priority Areas.

Prior to beginning the second phase of the study, the Western Regional Water Commission ("WRWC") approved and funded an interim study to identify and summarize various ways in which communities elsewhere in the United States have developed management or mitigation solutions to septic system pollution of groundwater. At present, the only solution employed locally to solve septic system groundwater contamination problems has been conversion of septic systems to sanitary sewer, which, while effective, is extremely costly. The report was completed by Stantec in March, 2013 and identifies community based technical, financial and management alternatives for mitigating contamination from septic systems.

The project tasks developed for the Phase II study prioritized nine study areas (Mt. Rose, Ambrose, Hidden Valley, Huffaker, Verdi, Geiger, Island 18, Mogul, and Pleasant Valley) that required a more in-depth analysis to fill in data gaps originally documented in Phase I. During 2014 and 2015, groundwater samples were collected from 175 domestic wells throughout these nine study area. In depth analysis and mass balance modeling will determine the septic effluent and nitrate load to groundwater and will be completed in 2016.

Additional samples were to be collected from areas of known impact (Washoe Valley, Cold Springs and Heppner). These areas have not been sampled for 10 to 20 years; therefore, an update is necessary to determine long term trends of septic effluent impact to groundwater. Over 65 samples have been collected in Washoe Valley since early November 2015. Cold Springs and Heppner samples are forecasted to be collected during January 2016.

FISCAL IMPACT

Should the Board approve this extension of the Interlocal Agreement, there will be no additional fiscal impact as the original scope of work and budget is in amount not to exceed \$150,000. Expenses allocable to the project will be recorded in Community Services Department Utilities' internal order number 31074 in cost center 664900. Staff will be responsible for providing the Western Regional Water Commission with itemized invoices for labor and expenses in order for reimbursement to occur. Reimbursed expenses will be recorded as revenue in Community Services Department Utilities' internal order number 31074, account 460162 for Services to Other Agencies, in cost center 664900.

RECOMMENDATION

It is recommended that the Board of County Commissioners approve a First Amendment to Interlocal Agreement between Washoe County and the Western Regional Water Commission retroactive to July 1, 2015, for the continuation of Septic Nitrate Study and Risk Assessment Phase II through June 30, 2016.

POSSIBLE MOTION

Should the Board agree with staff's recommendation, a possible motion would be:
"Move to approve a First Amendment to Interlocal Agreement between Washoe County and the Western Regional Water Commission retroactive to July 1, 2015, for the continuation of Septic Nitrate Study and Risk Assessment Phase II through June 30, 2016."

Attachment(s): First Amendment to Interlocal Agreement for the *Phase II: In-depth Analysis of Prioritized Study Areas, Creation of Baseline Data Set, and Risk Assessment*

Interlocal Agreement for the Phase II: In-depth Analysis of Prioritized Study Areas, Creation of Baseline Data Set, and Risk Assessment

cc: Jim Smitherman, WRWC Water Resources Program Manager
Chris Wessel, WRWC Water Management Planner

**FIRST AMENDMENT
TO
INTERLOCAL AGREEMENT**

The Interlocal Agreement (the "Agreement"), dated September 18, 2013, entered into between the Western Regional Water Commission, a political subdivision of the State of Nevada, (the "Commission") and Washoe County (the "County"), collectively the "Parties" is hereby amended as follows:

3) RIGHTS & DUTIES

The last sentence of Subsection 3.1.1 is revised to provide as follows:

Work on the project will progress and be completed by June 30, 2016.

Subsection 3.2.5 is revised to provide as follows:

3.2.5 Any remaining funds after payment of authorized expenses for the Project for fiscal year 2013 / 2014 may be used by the Commission, if necessary, for Project continuation in fiscal years 2014 / 2015 and 2015 / 2016.

The Agreement as amended to include the revisions set forth above is incorporated herein by reference, and all other terms and conditions of the Agreement shall remain in full force and effect.

This Amendment is effective July 1, 2015, regardless of the respective dates of execution by the Parties ("Effective Date").

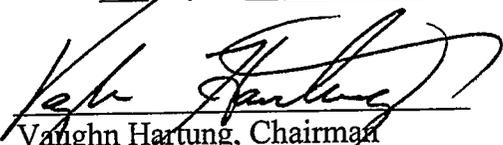
IN WITNESS WHEREOF, the Parties hereto have executed this Agreement.

WESTERN REGIONAL WATER COMMISSION

WASHOE COUNTY

Dated this 18 day of November, 2015

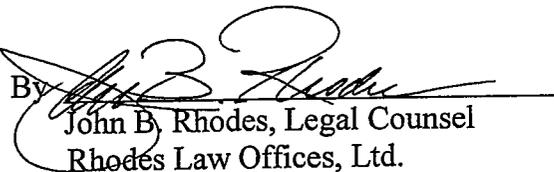
Dated this ___ day of _____, 2015

By 
Vaughn Hartung, Chairman
Western Regional Water Commission

By _____
Marsha Berkbigler, Chair
Washoe County Commission

APPROVED AS TO FORM:

APPROVED AS TO FORM:

By 
John B. Rhodes, Legal Counsel
Rhodes Law Offices, Ltd.

By _____
Paul A. Lipparelli
Assistant District Attorney

INTERLOCAL AGREEMENT

1) PARTIES

This Interlocal Agreement ("Agreement") is entered into between the Western Regional Water Commission, a political subdivision of the State of Nevada, (the "Commission") and Washoe County (the "County"), collectively the "Parties". In consideration of the mutual promises contained in this Agreement, the Parties agree as follows:

2) RECITALS

2.1 The Parties are public agencies as defined in NRS 277.100(1)(a).

2.2 NRS 277.180 provides that any one or more public agencies may contract with any one or more other public agencies to perform any governmental service, activity or undertaking which any public agency, entering into the contract, is authorized to perform.

2.3 The Commission's budget for fiscal year 2013 / 2014 identifies funding for Septic System Mitigation Planning.

2.4 Chapter 531, Statutes of Nevada 2007, the Western Regional Water Commission Act, Section 42 (2), requires the Comprehensive Regional Water Management Plan to contain a Groundwater Quality element, which must include, without limitation: Compliance with standards of quality for hydrographic basins and septic tanks; and, Programs to attain protection from pollution by both concentrated and diffuse sources.

2.5 The Northern Nevada Water Planning Commission, at its regular meeting held August 7, 2013 recommended that the Commission approve the Scope of Work and Budget attached hereto as Exhibit "A", and funding from the Regional Water Management Fund ("RWMF") in an amount not to exceed \$150,000, for a study entitled: "Phase II: In-Depth Analysis of Prioritized Study Areas, Creation of Baseline Data Set,

and Risk Assessment", ("the Project") for fiscal year 2013 / 2014, as set forth in Exhibit "A", to continue the ongoing Septic Nitrate Study.

3) RIGHTS & DUTIES

3.1 The County

3.1.1 The County will provide services required to conduct the Project and will submit invoices to the Commission through its Contract Administrator, for work completed on the Project under the Scope of Work and Budget attached hereto as Exhibit "A", and incorporated herein by reference. Work on the Project will progress and be completed before June 30, 2015.

3.1.2 The County will provide or contract for all services required to complete the Project.

3.1.3 The County shall, through its designated representative or Contract Administrator, provide to the Commission any information requested by the Commission's Contract Administrator, relating to any invoice submitted for payment.

3.1.4 The County shall set up a separate account for the Project, if not already existing, so that check numbers along with copies of cancelled checks for all expenditures can be submitted, as well as an exact itemization of Project expenditures, copies of itemized invoices, and properly documented timesheets.

3.1.5 RWMF monies will reimburse the County for salary, benefits, and related costs for County personnel as set forth in the Budget. The County may shift funding between line items if costs necessitate a transfer of funds.

3.1.6 All work product deliverables shall, at a minimum, be provided to the Commission as follows:

One (1) complete final printed version.

One (1) complete final electronic version of each document in the current version of Adobe Acrobat PDF file format inclusive of all

text and graphic work product. The file shall be indexed and capable of text recognition using Adobe Reader and will be provided at a minimum resolution of 300 dots-per-inch.

One (1) copy of each deliverable element in its current native file format. Native formats for deliverables will be provided as follows: Text in Microsoft Word format; Spreadsheets in Excel format; Databases in Microsoft Access format; graphics in AutoCAD format, all native pre-modeling and post-modeling files and Geographic Information Systems data in ESRI ArcMap/ArcInfo compatible file formats. Additionally, any and all native file formats as may be specified in the Scope of Work.

3.2 The Commission

3.2.1 The Commission's Water Resources Program Manager, Jim Smitherman, is hereby designated as the Commission's Contract Administrator.

3.2.2 Upon the submission of an invoice for payment, pursuant to Paragraph 3.1.1 above, the Contract Administrator shall promptly review the invoice, request any further information or documentation required, and process the invoice for payment within thirty (30) days following his approval.

3.2.3 The Commission, at its discretion, may conduct an audit of compliance with this Agreement and the funding provided for herein, relating to performance of this Agreement, compliance with the scope of the Project, and compliance with all applicable State, Federal and local laws, policies and procedures. Such audit shall be at the Commission's expense.

3.2.4 The total amount of invoices paid pursuant to this Agreement shall not exceed the sum of \$150,000 from the RWMF. All labor charges must be consistent with rates and fees identified in the Unit Fee Schedule attached hereto as Exhibit "B".

3.2.5 Any remaining funds after payment of authorized expenses for the Project for fiscal year 2013 / 2014 may be used by the Commission, if necessary, for Project continuation in fiscal year 2014 /2015.

3.3 Joint Rights and Responsibilities

3.3.1 Either Party may terminate this Agreement with thirty (30) day advance written notice to the other.

3.3.2 Both Parties agree to coordinate and use their best efforts to complete the Project and to collaborate in a timely manner in order to maximize the efficient use of funding and other resources.

4) **INDEMNIFICATION**

4.1 Each Party agrees to be responsible for any liability or loss that may be incurred as a result of any claim, demand, cost, or judgment made against that Party arising from any negligent act or negligent failure to act by any of that Party's employees, agents in connection with the performance of obligations assumed pursuant to this Agreement.

4.2 Each Party further agrees, to the extent allowed by law pursuant to Chapter 41 of the Nevada Revised Statutes ("NRS"), to hold harmless, indemnify and defend the other from all losses, liabilities or expenses of any nature to the person or property of another, to which the indemnified party may be subjected as a result of any claim, demand, action or cause of action arising out of the negligent acts, errors or omissions on the part of employees or agents of the indemnifying party in relation to this Agreement.

5) **MISCELLANEOUS PROVISIONS**

5.1 This Agreement is binding upon and inures to the benefit of the Parties and their respective heirs, estates, personal representatives, successors and assigns.

5.2 This Agreement is made in, and shall be governed, enforced and construed under the laws of the State of Nevada.

5.3 This Agreement constitutes the entire understanding and agreement of the Parties with respect to the subject matter hereof, and supersedes and replaces all prior understandings and agreements, whether verbal or in writing, with respect to the subject matter hereof.

5.4 This Agreement may not be modified or amended in any respect, except pursuant to an instrument in writing duly executed by the Parties.

5.5 In the event the Commission fails to appropriate or budget funds for the purposes as specified in this Agreement, The County hereby consents to the termination of this Agreement. In such event, the Commission shall notify The County in writing and the Agreement will terminate on the date specified in the notice. The Parties understand that this funding out provision is required under NRS 244.320 and NRS 354.626.

5.6 In the event either Party brings any legal action or other proceeding with respect to the breach, interpretation, or enforcement of this Agreement, or with respect to any dispute relating to any transaction covered by this Agreement, the losing Party or Parties in such action or proceeding shall reimburse the prevailing Party or Parties therein for all reasonable costs of litigation, including reasonable attorneys' fees.

5.7 No delay or omission by either Party in exercising any right or power under this Agreement shall impair any such right or power or be construed to be a waiver thereof, unless this Agreement specifies a time limit for the exercise of such right or power or unless such waiver is set forth in a written instrument duly executed by the person granting such waiver. A waiver of any person of any of the covenants, conditions, or agreements hereof to be performed by any other Party shall not be construed as a waiver of any succeeding breach of the same or any other covenants, agreement, restrictions or conditions hereof.

5.8 All notices, demands or other communications required or permitted to be given in connection with this Agreement, shall be in writing, and shall be deemed delivered when personally delivered to a Party or, if mailed, three (3) business days after deposit in the United States mail, postage prepaid, certified or registered mail, addressed to the Parties as follows:

To Commission: Jim Smitherman, Water Resources Program Manager
Western Regional Water Commission
4930 Energy Way
Reno, Nevada 89502

To County: David Solaro, Acting Director
Community Services Department
4930 Energy Way
Reno, Nevada 89502

4.9 This Agreement is effective upon the date the last signing Party signs this Agreement ("Effective Date").

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement.

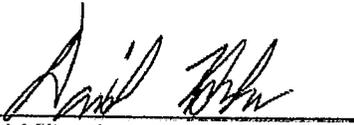
WESTERN REGIONAL WATER COMMISSION

WASHOE COUNTY

Dated this ___ day of _____, 2013

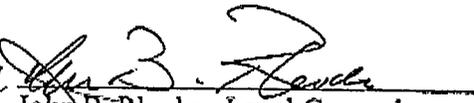
Dated this ___ day of _____, 2013

By 
Mike Carrigan, Chairman
Western Regional Water Commission

By 
David Humke, Chairman
Washoe County Commission

APPROVED AS TO FORM:

APPROVED AS TO FORM:

By 
John B. Rhodes, Legal Counsel
Rhodes Law Offices, Ltd.

By 
Peter C. Simeoni Paul Lipparelli,
Deputy District Attorney

EXHIBIT "A"

Scope of Work and Budget

**Western Regional Water Commission
Septic Nitrate Baseline Data and Risk Assessment
Study for Washoe County**

*PHASE II: IN-DEPTH ANALYSIS OF PRIORITIZED STUDY
AREAS, CREATION OF BASELINE DATA SET, AND
RISK ASSESSMENT*

July 22, 2013

Principal Investigator

Christian A. Kropf, Washoe County Community Services Department

Introduction

The Truckee Meadows Water Authority (TMWA) provides commercial and residential water service to almost 90,000 customers, and the Washoe County Community Services Department ("CSD") provides water service to approximately 22,000 residential customers. The majority of the CSD demand and approximately 15% of TMWA demand is met with groundwater. As development intensifies, population centers expand, and water needs multiply, ever-increasing pressure is put on already stressed groundwater and surface water sources.

Along with supply pressures, groundwater and surface waters are threatened by contaminants to water quality. Possibly the largest threat to water systems nation-wide is nitrate, from both natural and anthropogenic sources ⁽¹⁾. The CSD has identified areas of water quality degradation as a result of septic tank effluent, occurring predominantly in areas with high septic tank densities. There are approximately 18,300 septic tanks in Washoe County, and at least sixteen areas that may exhibit densities high enough to pose a problem to potable groundwater supplies. In addition to high densities, other contributing factors include shallow depths to groundwater, permeable soil conditions, and proximity to sensitive receptors. These conditions are present in Spanish Springs Valley ⁽²⁾, Washoe Valley ⁽³⁾, and Lemmon Valley ⁽⁴⁾⁽⁵⁾, and have been shown to lead to water quality degradation.

In Spanish Springs Valley, fifteen years of groundwater quality monitoring have shown increasing levels of nitrate contamination in municipal wells. Almost 2,000 septic systems are located within a four square-mile area, with almost half of these systems within 2,000 feet of one or more municipal water supply wells. Two of six municipal wells in the highly developed portion of Spanish Springs Valley have nitrate-nitrogen concentrations at or approaching the maximum contaminant level (MCL) of 10 ppm nitrate-nitrogen. A 1999 U.S. Geological Survey (USGS) study suggested that increasing nitrate levels may be linked to local septic systems ⁽⁶⁾⁽⁷⁾. A recent study by the USGS and CSD found that nitrate-nitrogen concentrations of 44 mg/L from septic effluent in the densely populated portion of the valley account for approximately 30 tons of nitrogen entering the groundwater system every year ⁽²⁾. An on-going study by the CSD shows nitrate concentrations increasing to over 57 ppm in the shallow aquifer.

Using lessons learned in these areas, and especially in Spanish Springs Valley, the CSD is prepared to expand the scope of the septic effluent investigation throughout the densely populated portions of the County. By determining where shallow groundwater is at risk from nitrate contamination, managers can decide where to allocate resources for appropriate follow-up action.

Project Goals

Phase I: Prioritization of Study Areas and Assessment of Data Needs, was a paper study using available data to identify potential areas of nitrate contamination and determine data needs. The goal of the investigation described herein, *Phase II: In-Depth Analysis of Prioritized Study Areas, Creation of Baseline Data Set, and Assessment of Risk*, is to identify areas with high septic system density that are degrading groundwater quality.

Project Tasks

It is estimated that five to eight of the prioritized study areas identified in Phase I will require more in-depth analysis to determine the risk they pose to water quality. Data gaps identified in Phase I will be addressed in Phase II, and may include additional water quality analyses and water sampling, water level collection, more intense records searches for water quality data and/or geologic information, and additional database creation. In addition, groundwater gradient maps, computer modeling, and mass balance modeling will be completed for each study area to determine the septic effluent and nitrate load to groundwater. This investigation will culminate in a report and presentation, with recommendations on addressing any areas that have degraded water quality or pose a high risk for water quality degradation.

Task I – Project Planning

- Overall project planning
 - Scheduling
 - Budgeting
 - Team development and meetings

Task II – Baseline Dataset Creation

- Fill data gaps, more intense records search or field work
 - Well log database queries
 - Water quality sampling – groundwater and/or surface water
 - Water levels
 - Geology
 - Septic design review
- Public outreach to obtain volunteers for well sampling

Task III – In-Depth Analysis

- Organization and database creation
 - Data collected from Phase I
 - Additional data collected in Task II above
- Modeling
 - Groundwater gradients
 - Vadose zone modeling
 - Mass balance modeling

Task IV – Risk Assessment

- Development of tables and maps based on all data collected above
- Comparison to areas of known contamination: Spanish Springs, Lemmon Valley, Washoe Valley
- Identification of areas of potential risk

Task V – Report Preparation and Presentation

- Preparation of a report divided by Study Area and a Presentation
 - Background
 - History of septics in the Study Area
 - Data findings
 - Modeling results
 - Risk assessment
 - Recommendations

-
- (1) Nolan, B.T., Hitt, K.J., and Ruddy, B.C. 2002. *Probability of Nitrate Contamination of Recently Recharged Groundwaters in the Conterminous United States*: Environmental Science and Technology, v. 36, no. 10, p. 2138-2144.
- (2) Rosen, M.R., Kropf, C., and Thomas, K.A. 2006. *Quantification of the Contribution of Nitrogen from Septic Tanks to Ground Water in Spanish Springs Valley, Nevada*: U.S. Geological Survey Scientific Investigations Report 2006-5206.
- (3) McKay, W.A. and H. Zhan, 1999. *A Solute Transport Model of Nitrate Occurrence in Washoe Valley, Nevada*: Desert Research Institute Publication No. 41162, 76 p.
- (4) Widmer, M.C. and W. A. McKay, 1994. *Ground Water Contamination from Septic Effluent in a Closed Basin, Washoe County, Nevada*: Washoe County Department of Public Works, Utility Division, 64 p.
- (5) Seiler, R.L., 1996. *Methods for Identifying Sources of Nitrogen Contamination of Ground Water in Valleys in Washoe County, Nevada*: U.S. Geological Survey Open-File Report 96-461, 20 p.
- (6) Seiler, R.L., 1999. *A Chemical Signature for Ground Water Contamination by Domestic Wastewater*: Reno, University of Nevada, Ph.D. dissertation, 125 p.
- (7) Seiler, R.L., Zaugg, S.D., Thomas, J.M., and Howcroft, D.L., 1999, *Caffeine and Pharmaceuticals as Indicators of Wastewater Contamination in Wells*: Ground Water, v. 37, no. 3, p. 405-410.

Estimated Project Costs and Schedule

Task	Staff	Hours	Rate	Subtotal	Task Total	Schedule
I	Hydrogeologist	40	\$ 69.25	\$ 2,770.00		
	Intern	80	\$ 11.45	\$ 916.00	\$ 3,686.00	2 weeks
II	Hydrogeologist	200	\$ 69.25	\$ 13,850.00		
	Hydrogeologist	100	\$ 69.25	\$ 6,925.00		
	Engineering	40	\$ 76.07	\$ 3,042.80		
	GIS	40	\$ 58.21	\$ 2,328.40		
	Intern	200	\$ 11.45	\$ 2,290.00		
	Lab Analytical	Not-to-Exceed		\$ 50,000.00	\$ 78,436.20	5 weeks
III	Hydrogeologist	150	\$ 69.25	\$ 10,387.50		
	Engineering	20	\$ 76.07	\$ 1,521.40		
	GIS	100	\$ 58.21	\$ 5,821.00		
	Intern	200	\$ 11.45	\$ 2,290.00		
	DRI - Modelling		Lump	\$ 10,000.00	\$ 30,019.90	5 weeks
IV	Hydrogeologist	120	\$ 69.25	\$ 8,310.00		
	Engineering	20	\$ 76.07	\$ 1,521.40		
	GIS	120	\$ 58.21	\$ 6,985.20		
	Intern	120	\$ 11.45	\$ 1,374.00	\$ 18,190.60	3 weeks
V	Hydrogeologist	150	\$ 69.25	\$ 10,387.50		
	Engineering	20	\$ 76.07	\$ 1,521.40		
	GIS	100	\$ 58.21	\$ 5,821.00		
	Intern	80	\$ 11.45	\$ 916.00		
	Materials			\$ 1,000.00	\$ 19,645.90	5 weeks
Project Total					\$ 149,978.60	20 weeks

Notes:

1. Funds may be transferred as needed between tasks but the overall project total is a "Not to Exceed" cost.
2. Estimated project start date: November 2013
3. Estimated project duration: 12 months

EXHIBIT "B"UNIT FEE SCHEDULE

<u>Labor</u>	<u>Unit/Hour Rate</u>
Hydrogeologist*	\$69.25
Engineer*	\$76.07
GIS*	\$58.21
Intern*	\$11.45
 <u>Expenses</u>	
Materials - Not to Exceed	\$1,000.00
Mileage**	

Notes:

- * Labor rate may subject to change based on a contractual rate adjustment as negotiated per County employee collective bargaining agreements.
- ** Mileage rate based on current internal revenue service allowable reimbursement rates.